

# Operating Systems

## OS Basic Concepts (I)

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# OS Basic Concepts

## **Coordination with User**

- ✓ Successfully Interactive processing is to respond the users with sufficiently fast time.
- ✓ Printing record of all students VU versus word processing (typing characters)
- ✓ Execution of tasks under a deadline

# OS Basic Concepts

## **Real-time Processing**

- ✓ Computer performs the tasks in accordance with the deadlines in its external real-world environment.
- ✓ Example of Cruise Missile, Radar etc

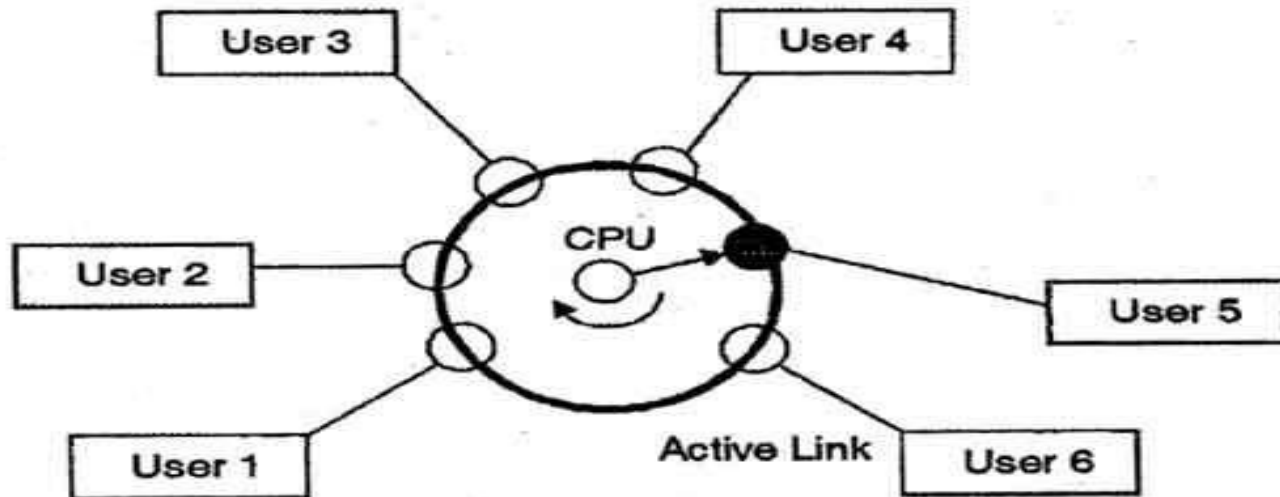
# OS Basic Concepts

## **Interactive system and Real-time Processing**

- ✓ If a system is servicing only one user, real-time processing was relatively easier to implement, however, computers in 60s, 70s were expensive,
- ✓ Each machine had to serve more than one user at remote terminals.

# OS Basic Concepts

## Time Sharing



- ✓ Based on this problem, such OS were designed to service multiple users at the same time called time-sharing. Active, Ready, Waiting states

# OS Basic Concepts

- Multi-programming**
- ✓ One way of implementing time-sharing, small time intervals, each job is executed for such a small interval.
  - ✓ Early systems were able to service 30 users simultaneously.

# OS Basic Concepts

## **Multitasking**

- ✓ One user executing several tasks simultaneously.
- ✓ Today Multiprogramming is used in single user and multiple users

# Summary

## **OS Basic**

### **Concepts (I)**

- ✓ Realtime processing
- ✓ Time Sharing
- ✓ Multi-programming
- ✓ Multi-tasking